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JFACC Information Management (IM) Capability – 2010

Functional Decomposition of Operational Activities – Version 1.0

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Abstract

The JFACC Information Management (IM) Functional Decomposition of Operational Activities provides the hierarchy of activities for the Joint Force Air and Space Component Commander's (JFACC's) IM Capability in 2010. It documents key processes and information exchanges required of the JFACC IM Capability supporting an Air and Space Component. This capability is under the operational control of a JFACC supporting a Joint Force Commander (JFC) within a theater or geographic region and outlines the conceptual "baseline". The Functional Decomposition has five major sections; Provide Information Management/Net-centricity Governance (1.1 series), Manage Information/Net-centric Data Accessibility (1.2 series), Manage Net-centric Data (1.3 series), Manage Net-centric Pictures (1.4 series) and Manage Component Information Assurance/Network Defense Operations (1.5 series). Associated products of this briefing are the JFACC IM Operational Architecture and Concept Briefing.

MITRE developed a set of Operational Architecture Views describing the JFACC IM functionality in the 2010 timeframe. The operational views are a conceptual "baseline" documenting key processes and information exchanges required of an IM capability supporting a JFACC and the Air and Space Component within a theater joint force organization. The Architecture aligns with the Function Decomposition and is outlined in five major areas; IM Governance (1.1 series), Information/Net-centric Data Accessibility (1.2 series), Net-centric Data Management (1.3 series), Net-centric Picture Management (1.4 series), and Component Information Assurance/Network Defense Operations Management (1.5 series).

KEYWORDS: Community of Interest; COI; Metadata Catalogs; IMO; Information Management Office; IMC; Information Management Cell; IMB; Information Management Board; JIMB; Joint Information Management Board; Subscriptions; DDMS; IMP; Data; Data Management; Information Management; Net-Centric; Net-Centricity; CROP; Common Relevant Operational Picture; Data Asset; Information Exchange Product; IEP; Horizontal Fusion; Shared Space; User Profiles; Data Standardization; DoD Net-Centric Data Strategy; Data Standards; CCIR; Taxonomies; Ontologies; Ontology

U.S. AIR FORCE

JFACC
Information Management (IM)
Capability
2010

Functional Decomposition of Operational Activities

Version 1.0

8 September 2004

Air Force C2&ISR Center Integration Directorate (AFC2ISRC/CX)
Langley AFB, VA

General

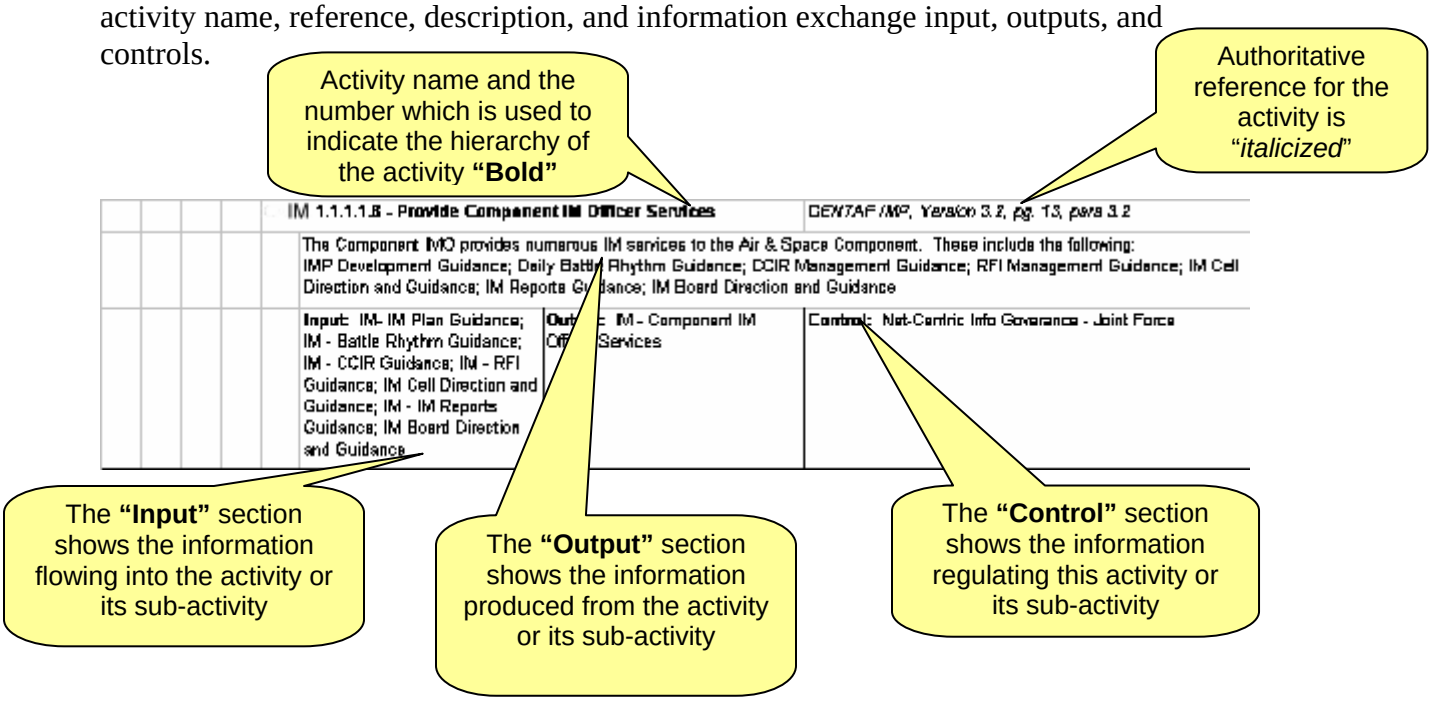
This Functional Decomposition of Operational Activities provides the hierarchy of activities for the Joint Force Air and Space Component Commander's (JFACC's) Information Management (IM) Capability in 2010. It documents key processes and information exchanges required of the JFACC IM Capability supporting an Air and Space Component. This capability is under the operational control of a JFACC supporting a Joint Force Commander (JFC) within a theater or geographic region.

How to use this Document

1. This Functional Decomposition has five major sections; Provide Information Management/Net-centricity Governance (1.1 series), Manage Information/Net-centric Data Accessibility (1.2 series), Manage Net-centric Data (1.3 series), Manage Net-centric Pictures (1.4 series) and Manage Component Information Assurance/Network Defense Operations (1.5 series).

2. Each section can be identified by the number at the beginning of the activity name. The numbering of the activities indicates a hierarchy of activities within the section. This does not mean that activities will unfold serially. Many processes will run concurrently. The hierarchy merely gives an indication of the activity flow for particular processes. For example, building a picture may run concurrently with network defense operations although the numbering in the hierarchy may indicate one process follows the other.

4. Every activity has six parts as shown in the illustration below. The six parts are the; activity name, reference, description, and information exchange input, outputs, and controls.



IM 1.0 - Manage Air & Space Component Information/Net-Centricity *This activity is not referenced.*

C2 Warriors effect procedures to provide information management/net-centricity governance, manage information/net-centric data accessibility, manage the Air & Space Component's net-centric data; build and monitor the Component's net-centric pictures or CROPs, and manage the Component's information assurance/network defense operations.

IM 1.1 - Provide Information Management/Net-centricity Governance *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 10*

The DoD CIO, and counterparts at the theater, joint force and component levels establish a net-centric data governance process to promote and sustain successful data management practices across their domains by reviewing and sharing metrics, best practices, and incentive structures. These net-centric governance processes also provide oversight of net-centric infrastructure development efforts. C2 Warriors implement procedures to govern information management procedures within the Air Component. These should align with higher-level information management requirements and practices. Info/Data approaches are incorporated throughout the Department of Defense processes and practices.

Input: Net-centric Incentives - Joint Force; Joint Force Shared Space Allocation - Air & Space Component; Air & Space Assessment - IM Plan; CAOC Assessment - CAOC User Profiles Management; IM - Continuity of Operations Plan (COOP)	**Output:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; Net-Centric Information Management Strategy - Air and Space Component; CCIRs - Component Initial; IM - Profile Standards/Format; Net-centric Data Ratings; IM - Component Net-centric Metrics; IM - Component Data Standards	**Control:** Net-centric Info Governance - DoD; Net-centric Info Governance - Regional Component; Net-centric Info Governance - Joint Force; Net-centric Data Interoperability Standards - DoD; Net-centric Data Interoperability Standards - Regional Component; Net-centric Data Interoperability Standards - Joint Force; Info Management Plan (IMP) - Joint Force; CCIRs - JFC

IM 1.1.1 - Provide Component Net-centric/Info Management Organization *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 14*

The DoD CIO, and counterparts at the theater, joint force and component levels establish a net-centric information governance process to promote and sustain successful information management practices across their domains by reviewing and sharing metrics, best practices, and incentive structures. These net-centric governance processes also provide oversight of net-centric infrastructure development efforts.

Input: Joint Force Shared Space Allocation - Air & Space Component	**Output:** IM - Battle Rhythm Guidance; IM - RFI Guidance; Net-centric Info Governance - Air and Space Component; IM - CCIR Guidance; IM - IM Plan Guidance	**Control:** Info Management Plan (IMP) - Joint Force; Net-centric Info Governance - DoD; Net-centric Info Governance - Regional Component; Net-centric Info Governance - Joint Force

IM 1.1.1.1 - Execute Information Management Officer Duties *CENTAF IMP, pg. 13, para 3.2*

The IMO is the chief for all information management in the CAOC and is responsible for coordinating with the Joint IM counterparts, and other components. The IMO is intimately aware of the JFACC's information management requirements and possesses the authority to coordinate actions and processes to satisfy essential information needs. The IMO works closely with higher HQ IMOs to ensure all required reports are up-channeled consistent with the CFACC battle rhythm. The IMO serves as the focal point for CFACC information management issues with other functional component commander staffs. The IMO also works closely with command admin staffs and command and control elements (command posts) of all subordinate units in order to define reporting requirements.

Input:	**Output:** IM - IM Plan Guidance; IM - RFI Guidance; IM - Battle Rhythm Guidance; IM - CCIR Guidance; IM - Component IM Officer Services; IM Board Direction and Guidance; IM Cell Direction and Guidance	**Control:** Net-centric Info Governance - DoD; Net-centric Info Governance - Regional Component; Net-centric Info Governance - Joint Force

IM 1.1.1.1.1 - Direct Information Management Plan Development *CENTAF IMP, Version 3.2, pg. 13, para 3.2.1*

The IMO leads to effort to build the Component's Information Management Plan (IMP). The IMO ensures the IMP aligns with the Joint IMP and all related Governance.

Input:	**Output**: IM - IM Plan Guidance	**Control:** Net-centric Info Governance - Regional Component; Net-centric Info Governance - Joint Force; Net-centric Info Governance - DoD

IM 1.1.1.1.2 - Manage Daily Battle Rhythm *CENTAF IMP, Version 3.2, pg. 19, para 4.2.1*

Utilizing the IMP, the IMO ensures the Daily Battle Rhythm is maintained to include the following:
Monitor the daily operations requirements of higher HQ via email, message traffic, the AOC PORTAL or the CAOC Homepage
Ensure all CAOC daily operations cycles meet the needs of the Joint Force
Monitor for conflicting CAOC requirements (particularly for key personnel)
Keep changes to a minimum.

Input:	**Output:** IM - Battle Rhythm Guidance	**Control:**

IM 1.1.1.1.3 - Oversee CCIR Management *CENTAF IMP, Version 3.2, pg. 13, para 3.2.1*

CCIR are a vital part of IM planning. CCIR are a prioritized list of information requirements identified by the Commander that are critical to understanding the flow of the operation, identifying risks, and making timely decisions. The IMO develops procedures to validate and manage CCIRs.

Input:	Output: IM - CCIR Guidance	Control:

IM 1.1.1.1.4 - Oversee RFI Management *CENTAF IMP, Version 3.2, pg. 13, para 3.2.1*

RFI are vital means of requesting information to support military operations. The IMO develops procedures to validate and manage RFIs.

Input:	Output: IM - RFI Guidance	Control:

IM 1.1.1.1.5 - Lead IM Information Management Cell *CENTAF IMP, Version 3.2, pg. 14, para 3.3*

The CAOC IM Cell acts as the focal point for coordinating IM within the CAOC and works directly for the IMO. The IMO ensures the IM Cell carries out its assigned mission and responsibilities. The IMO establishes the IM Cell structure and appoints key management personnel.

Input:	Output: IM Cell Direction and Guidance	Control:

IM 1.1.1.1.6 - Oversees IM Reports *CENTAF IMP, Version 3.2, pg. 14, para 3.2.1*

The IMO establishes reporting requirements and timelines with subordinate units. The IMO, through the IM Cell monitors unit reporting to ensure timeliness and correct formatting.

Input:	Output: IM - IM Reports Guidance	Control:

IM 1.1.1.1.7 - Chair Information Management Board *CENTAF IMP, Version 3.2, pg. 13, para 3.2.1*

The IMO chairs the Component's Information Management Board. The IMO liaises directly with IMB chairs from the JIMB and other Component boards. The IMO establishes the board agenda and presides over the meetings.

Input:	Output: IM Board Direction and Guidance	Control:

IM 1.1.1.1.8 - Provide Component IM Officer Services *CENTAF IMP, Version 3.2, pg. 13, para 3.2*

The Component IMO provides numerous IM services to the Air & Space Component. These include the following: IMP Development Guidance; Daily Battle Rhythm Guidance; CCIR Management Guidance; RFI Management Guidance; IM Cell Direction and Guidance; IM Reports Guidance; IM Board Direction and Guidance

Input: IM- IM Plan Guidance; IM - Battle Rhythm Guidance; IM - CCIR Guidance; IM - RFI Guidance; IM Cell Direction and Guidance; IM - IM Reports Guidance; IM Board Direction and Guidance	**Output:** IM - Component IM Officer Services	**Control:**

IM 1.1.1.2 - Manage Information Management Board *CENTAF IMP, pg. 13, para 3.2.1*

The Air & Space Component's Information Management Board (IMB) is the action arm of the IMO and serves as the key interface with the JIMB. The IMB coordinates CCIRs, manages shared space allocation to the Component, and resolves RFI issues.

Input: Joint Force Shared Space Allocation - Air & Space Component	**Output**: IM - Component IM Board Services	**Control:** IM Board Direction and Guidance; Info Management Plan (IMP) - Joint Force

IM 1.1.1.2.1 - Interface with Joint IM Board (JIMB) *JTF-IM, pg. II-6, para 6*

The Air & Space Component's Information Management Board is closely linked to the JIMB. The boards refer matters to one another for resolution or guidance. The IMO's designee from the Component's IMB will represent the Component as a member of the JIMB.

Input:	**Output:** IM - Joint Management Board Interface	**Control:** IM Board Direction and Guidance

IM 1.1.1.2.2 - Coordinate Component CCIRs *This activity is not referenced*

The IMB reviews Component CCIRs to ensure alignment with higher level CCIRs and the JFACC's critical information needs.

Input:	**Output:** IM - Component CCIR Coordination	**Control:** IM Board Direction and Guidance

IM 1.1.1.2.3 - Manage Initial Shared Space Allocation *This activity is not referenced*

The IMB negotiates the initial Shared Space allocation for the Air & Space Component. The IMB processes ALLOREQs and forwards to the JIMB.

Input: Joint Force Shared Space Allocation - Air & Space Component	**Output:** IM - Proposed Allocation of Component Shared Space	**Control:** IM Board Direction and Guidance

IM 1.1.1.2.4 - Manage RFI Issues *This activity is not referenced*

The IMB serves as an adjudication body to resolve RFI issues. An RFI that has been rejected or not satisfied within the Component may be brought before the IMB for mediation.

Input:	**Output:** IM - Component RFI Adjudication	**Control:** IM Board Direction and Guidance

IM 1.1.1.2.5 - Provide Component IM Board Services *This activity is not referenced.*

The Component IMB provides numerous IM services to the Air & Space Component. These include the following: JMB Interface; Component CCIR Coordination; Joint Force Shared Space Allocation to the Component; RFI Adjudication

Input: IM - Joint Management Board Interface; IM - Component CCIR Coordination; IM - Proposed Allocation of Component Shared Space; IM - Component RFI Adjudication	**Output:** IM - Component IM Board Services	**Control:** IM Board Direction and Guidance; Info Management Plan (IMP) - Joint Force

IM 1.1.1.3 - Manage Information Management Cell *CENTAF IMP, pg., 14, para 3.3*

The CAOC IM Cell acts as the focal point for coordinating IM within the CAOC and works directly for the IMO. The Information Management Cell works closely with the IMO to ensure IM policies and procedures are implemented and followed throughout the CAOC. The CAOC IM cell is responsible for providing processes and business rules for life-cycle management of information as well as user assistance for common software applications.

Input:	**Output**: IM - Component IM Cell Services	**Control:** IM Cell Direction and Guidance

IM 1.1.1.3.1 - Manage Workgroup Managers (embedded/shared) *CENTAF IMP, pg. 14, para 3.3.1*

The IM Cell provides oversight and training to WM personnel. WMs provide integrated information management with computer/network user management to effectively manage information as a corporate asset and strategic resource regardless of media.

Input: IM Cell Direction and Guidance	**Output:** IM - Workgroup Manager Direction and Guidance	**Control:**

IM 1.1.1.3.2 - Provide Overall Info-Related Admin Support *CENTAF IMP, pg. 14, para 3.3.1, paras 4.6, 4.10, 4.11*

IM Cell personnel carry out administrative duties to support the mission. This includes support for daily briefings, JFACC/CAOC Director Read File, Significant Events Log, and Phone/E-mail Listings.

Input:	Output: IM - Admin Support	Control: IM Cell Direction and Guidance

IM 1.1.1.3.3 - Manage AOC Portal Webpage/IM Homepage *CENTAF IMP, pg. 14, para 3.3.1*

The IM Cell, as directed by the IMO develops and maintains the AOC Portal Webpage and the CAOC Homepage, enabling the CAOC staff to share data as well as exchange information in a collaborative environment

Input:	Output: IM - AOC Portal Webpage/CAOC Homepage	Control: IM Cell Direction and Guidance

IM 1.1.1.3.4 - Manage Electronic File Plan *CENTAF IMP, pg. 14, para 3.3.1*

The IM Cell develops and maintains the EFP for the CAOC and ensures documentation is filed accordingly.

Input:	Output: IM - Electronic File Plan	Control: IM Cell Direction and Guidance

IM 1.1.1.3.5 - Manage Messaging Services *CENTAF IMP, pg. 14, para 3.3.1*

The IM Cell oversees message distribution within the CAOC.

Input:	Output: IM - Messaging Services	Control: IM Cell Direction and Guidance

IM 1.1.1.3.6 - Manage Suspense Control *CENTAF IMP, pg. 14, para 3.3.1, pg. 22,para 4.9*

The IM Cell monitors tasking within the CAOC and manages the Master Suspense Action Log.

Input:	Output: IM - Suspense Control Program	Control: IM Cell Direction and Guidance

IM 1.1.1.3.7 - Provide Component IM Cell Services *CENTAF IMP, pg., 14, para 3.3*

The Component IM Cell provides numerous IM services to the Air & Space Component. These include the following: WM Direction and Guidance; Admin Support; AOC Portal Webpage/CAOC Homepage; Electronic File Plan; Message management; Suspense Control

Input: IM - Workgroup Manager Direction and Guidance; IM - Admin Support; IM - AOC Portal Webpage/CAOC Homepage; IM - Electronic File Plan; IM - Messaging Services; IM - Suspense Control Program	**Output:** IM - Component IM Cell Services	**Control:** IM Cell Direction and Guidance

IM 1.1.1.4 - Provide Component Net-centric Info Governance *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 14*

The Component IMO, IMB and IM cell provide net-centric info governance for the Air & Space Component. The direction and guidance provided by these entities allows the Component to effectively plan, execute and assess its IM mission.

Input: IM - Component IM Officer Services; IM - Component IM Board Services; IM - Component IM Cell Services	**Output:** Net-centric Info Governance - Air and Space Component	**Control:**

IM 1.1.2 - Establish Component CCIRs *CENTAF IM, pg. 19, para 4.3*

CCIR are a vital part of IM planning. CCIR are a prioritized list of information requirements identified by the JFACC that are critical to understanding the flow of the operation, identifying risks, and making timely decisions. CCIR aid the JFACC by reducing available data to a manageable, finite set of information requirements, which need to be acquired, processed and filtered in a time-sensitive manner. More importantly, it focuses the staff on the exact elements of information the JFACC must have as soon as it is available. CCIR are situation dependent. The JFACC's information requirements change as events unfold; decision points pass, or branch plans are executed. CCIR must be continuously assessed for relevance to current and future situations.

Input:	**Output:** CCIRs - Component Initial	**Control:** Net-centric Info Governance - Air and Space Component; IM - CCIR Guidance; CCIRs - JFC

IM 1.1.2.1 - Establish Operational Environment Category CCIRs *CENTAF IMP, pg. 46, para A3.1*

The JFACC requires CCIRs in the following category: Environment - Refers to information regarding the operational environment. This includes, but is not limited to, information such as meteorological conditions, changes in national policy by the U.S., coalition, or neutral governments/forces, and relevant activities of non-governmental and private organizations.

Input:	Output: IM - Ops Environment CCIRs	Control: IM - CCIR Guidance; CCIRs - JFC

IM 1.1.2.2 - Establish Friendly Force Category CCIRs *CENTAF IMP, pg. 46, para A3.1*

The JFACC requires CCIRs in the following category: Friendly - Information the commander needs pertaining to assigned forces in order to make timely and appropriate decisions. This category includes information regarding force locations, critical supply levels, and levels of force effectiveness.

Input:	Output: IM - Friendly Force CCIRs	Control: IM - CCIR Guidance; CCIRs - JFC

IM 1.1.2.3 - Establish Threat Category CCIRs *CENTAF IMP, pg. 46, para A3.1*

The JFACC requires CCIRs in the following category: Threat - Critical items of information needed by a particular time that relates with other available information and intelligence to assist in assessing and understanding the situation. This category involves indications and warnings (I/W) of threat intents and future actions. Examples include information regarding force movements, changes in opposing force intents or policies.

Input:	Output: IM - Threat Category CCIRs	Control: IM - CCIR Guidance; CCIRs - JFC

IM 1.1.2.4 - Validate Initial Set of Component CCIRs *CENTAF IMP, pg. 46, para A3.2*

CCIRs are collated and reviewed for consistency and accuracy. The Component IMB coordinates on the initial set of CCIRs and additions as required. The validated CCIRs are forwarded to the JFACC for approval.

Input: IM - Ops Environment CCIRs; IM - Friendly Force CCIRs; IM - Threat Category CCIRs	Output: IM - Validated CCIRs	Control: Net-centric Info Governance - Air and Space Component

IM 1.1.2.5 - Approve Initial Set of Component CCIRs *CENTAF IMP, pg. 46, para A3.2*

The JFACC reviews the validated CCIRs and approves their release.

Input: IM - Validated CCIRs	Output: IM - CCIRs - Component Initial	Control:

IM 1.1.3 - Establish Component IM Strategy/Plan *Derived from DoD Net-centric Data Strategy, pg. 2.*

The Air and Space Component's approach to managing its net-centric information program and how it will support Joint Force and higher-level information management programs.

This Strategy defines the role for information management within the Air & Space Component. This Strategy expands the focus to visibility and accessibility of data rather than just standardization. It also recognizes the need for data to be usable for unanticipated users and applications, as well as for those that have been predefined. This Strategy identifies Air & Space Component approaches that will improve

flexibility in data/information exchange, supporting interoperability between systems without requiring predefined, pair-wise interfaces between them.

Input: IM - IM Plan Guidance; Air & Space Assessment - IM Plan; IM - Continuity of Operations Plan (COOP); IM - Profile Standards/Format; Net-centric Data Ratings; IM - Component Net-centric Metrics; IM - Component Data Standards	**Output:** Info Management Plan (IMP) - Air and Space Component; Net-Centric Information Management Strategy - Air and Space Component	**Control:** IM - Battle Rhythm Guidance; IM - RFI Guidance; Info Management Plan (IMP) - Joint Force; Campaign Plan; JAOP

IM 1.1.3.1 - Establish Component IM Strategy *Derived from DoD Net-centric Data Strategy, pg. 2.*

This Strategy defines the role for information management within the Air & Space Component. This Strategy expands the focus to visibility and accessibility of data rather than just standardization. It also recognizes the need for data to be usable for unanticipated users and applications, as well as for those that have been predefined. This Strategy identifies Air & Space Component approaches that will improve flexibility in data/information exchange, supporting interoperability between systems without requiring predefined, pair-wise interfaces between them.

Input: Net-centric Info Governance - Air and Space Component; CCIRs - Component Initial	**Output:** Net-Centric Information Management Strategy - Air and Space Component	**Control:** Info Management Plan (IMP) - Joint Force; JAOP; Campaign Plan

IM 1.1.3.2 - Plan Information Management/Net-Centricity *JTF IM (AFTTP(I)) 3-2.22 para 7a and CENTAF IMP para 3.2.1*

C2 Warriors build the Air & Space Component's Information Management Plan documenting the Component's IM organization, the JFACC's dissemination policy; information requirements and general procedures, digital rules of protocol, the JFACC's battle rhythm, and the Continuity of Operations Plan (COOP).

Input: IM - Profile Standards/Format; Air & Space Assessment - IM Plan; CCIRs - Component Initial; IM - Component Data Standards; Net-centric Data Ratings; IM - IM Plan Guidance; IM - Component Net-centric Metrics; IM - Continuity of Operations Plan (COOP)	**Output:** Info Management Plan (IMP) - Air and Space Component	**Control:** Campaign Plan; Net-centric Info Governance - Air and Space Component; IM - Battle Rhythm Guidance; Info Management Plan (IMP) - Joint Force; JAOP; IM - RFI Guidance

IM 1.1.3.2.1 - Detail Component IM Organization *JTF IM, pg., C-1*

Based on higher level guidance, C2 Warriors provide the organizational construct to manage the Air & Space Component's IM program. This will include key management roles, levels of authority, initial manpower requirements, sub-division structure, and operating locations.

Input: Air & Space Assessment - IM Plan; IM - IM Plan Guidance	**Output:** IM Plan - IM Organization	**Control:** Info Management Plan (IMP) - Joint Force; Net-Centric Information Management Strategy - Air and Space Component; Net-centric Info Governance - Air and Space Component; Campaign Plan; JAOP

IM 1.1.3.2.2 - Provide Commander's Dissemination Policy (CDP) *JTF IM, pg., III-5, para 3b*

The CDP serves as the JFACC's guidance portion of the IMP on dissemination of information within and outside of the component. The CDP is not a separate document, but a part of the IMP. It provides a foundation for developing the IMP and aids in prioritizing IM activities. It provides policy to guide JTF information management decisions in the absence of specific guidance or detailed instructions. Critical information needs must be predetermined and prioritized to ensure support for critical missions, prevent overload of routine information, and provide guidance to apportion information assets.

Input: Air & Space Assessment - IM Plan; IM - IM Plan Guidance	**Output:** IM Plan - Commander's Dissemination Policy (CDP)	**Control:** Info Management Plan (IMP) - Joint Force; Net-Centric Information Management Strategy - Air and Space Component; Net-centric Info Governance - Air and Space Component; Campaign Plan; JAOP

IM 1.1.3.2.3 - Document Info Requirements/General Procedures *JTF-IM, III-4, para 3a(2)*

C2 Warriors document basic information requirements, e.g., JFACC CCIRs, and general procedures to manage information, data assets and CROPs.

Input: CCIRs - Component Initial; IM - Profile Standards/Format; Net-centric Data Ratings; IM - Component Data Standards; IM - Component Net-centric Metrics; IM - IM Plan Guidance; Air & Space Assessment - IM Plan	**Output:** IM Plan - Info Requirements/General Procedures	**Control:** Info Management Plan (IMP) - Joint Force; Net-Centric Information Management Strategy - Air and Space Component; Net-centric Info Governance - Air and Space Component; Campaign Plan; JAOP; IM - RFI Guidance

IM 1.1.3.2.4 - Establish Digital Rules of Protocol *JTF-IM, pg. III-4, para 3a(3)*

C2 Warriors establish and document the digital rules of protocol for the component.

Input: Air & Space Assessment - IM Plan; IM - IM Plan Guidance	**Output:** IM Plan - Digital Rules of Protocol	**Control:** Net-centric Info Governance - Air and Space Component; Net-Centric Information Management Strategy - Air and Space Component; Info Management Plan (IMP) - Joint Force

IM 1.1.3.2.5 - Document Commander's Battle Rhythm *JTF-IM, pg. III-4, para 3a(4)*

Air Warriors establish a general schedule of events for air and space operations; this documents the JFACC's Battle Rhythm.

Input: Air & Space Assessment - IM Plan; IM - IM Plan Guidance	**Output:** IM Plan - Commander's Battle Rhythm	**Control:** Net-centric Info Governance - Air and Space Component; Net-Centric Information Management Strategy - Air and Space Component; Info Management Plan (IMP) - Joint Force; IM - Battle Rhythm Guidance

IM 1.1.3.2.6 - Document the COOP *JTF-IM, pg. V-9, para 9c(1)*

An integral part of the IMP, the COOP may include the following:
(a) List of critical information systems related to their respective mission.
(b) Authorized users list, distinguished by tier groups.
(c) Local INFOCON procedures.
(d) INFOCON quick reference matrix of critical systems.
(e) Operational impact assessment of mission.
(f) Reporting instructions.

Input: Air & Space Assessment - IM Plan; IM - Continuity of Operations Plan (COOP); IM - IM Plan Guidance	**Output:** IM Plan - Component COOP	**Control:** Net-centric Info Governance - Air and Space Component; Net-Centric Information Management Strategy - Air and Space Component; Info Management Plan (IMP) - Joint Force

IM 1.1.3.2.7 - Compile IMP Input *Derived from CENTAF IMP, pg 13.*

C2 Warriors assemble the key parts of the Component IM Plan and submit it as a draft for coordination.

Input: IM Plan - IM Organization; IM Plan - Commander's Dissemination Policy (CDP); IM Plan - Info Requirements/General Procedures; IM Plan - Digital Rules of Protocol; IM Plan - Commander's Battle Rhythm; IM Plan - Component COOP	**Output:** IM Plan - Draft	**Control:**

IM 1.1.3.2.8 - Coordinate IMP *Derived from CENTAF IMP, pg 13.*

C2 Warriors coordinate the IMP Draft and submit the coordinated plan for approval.

Input: IM Plan - Draft	**Output:** IM Plan - Coordinated	**Control:** Info Management Plan (IMP) - Joint Force

IM 1.1.3.2.9 - Approve Component IMP *Derived from CENTAF IMP, pg 13.*

The JFACC or designated authority approves the Air & Space Component's Information Management Plan (IMP).

Input: IM Plan - Coordinated	**Output:** Info Management Plan (IMP) - Air and Space Component	**Control:**

IM 1.1.4 - Establish Component Data Standards, Metrics and Incentives *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 10, para 2.2, pg. 14, para 3.3.4*

The IMO establishes Data Standards to ensure data is visible, accessible, understandable, trusted, interoperable, and responsive. Metrics will be collected to track implementation and application of the approaches. Metrics will be helpful in evaluating usage to ensure participation across the Component. Metrics also serve as a means to evaluate the effectiveness of the overall Information Management Strategy. Measurement techniques will be developed to ensure that metrics are captured in a useful and consistent manner and reflect higher-level metrics.

Input: Net-Centric Information Management Strategy - Air and Space Component; Net-centric Incentives - Joint Force;	**Output:** IM - Component Net-centric Metrics; IM - Component Net-centric Incentives; IM - Component Data Standards	**Control:** Net-centric Data Interoperability Standards - DoD; Net-centric Data Interoperability Standards - Regional Component; Net-centric Data Interoperability Standards - Joint Force

IM 1.1.5 - Establish User Profile Standards *Derived from JTF-IM, pg. IV-14, para 10b(4).*

C2 Warriors develop standardized user profiles for crew positions within the CAOC and key nodes outside the CAOC. These profiles should reflect user needs to address common operational requirements within the region. Workcenter Managers provide input from their respective areas. At the onset of operations, these profiles may be tailored to meet operator needs.

Input: IM - Component Net-centric Metrics; IM - Component Net-centric Incentives; IM - Component Data Standards; Net-Centric Information Management Strategy - Air and Space Component; CAOC Assessment - CAOC User Profiles Management	**Output:** IM - Profile Standards/Format; Net-centric Data Ratings	**Control:** Net-centric Info Governance - Air and Space Component

IM 1.2 - Manage Information/ Net-centric Data Accessibility *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 10*

C2 Warriors process information requirements. This may result in a new info product subscription, a new data asset requirement, or a data asset subscription. New data asset requirements dictate an analysis of shared space availability.

Input: IM - Profile Standards/Format; CCIRs - Component Initial; IM - User Profile Change Request; Metadata Catalog - Air and Space Component; Metadata Catalog - Joint Force; Metadata Catalog - Regional Component; Metadata Catalog - Land Component; Metadata Catalog - Maritime Component; Metadata Catalog - Special Operations Component; Metadata Catalog - TRANSCOM; Metadata Catalog - STRATCOM; Metadata Catalog - Global Weather;	**Output:** IM - CROP Request; IM - Net-centric Data Want Ad; IM - Processed RFI; IM - Data Asset Subscription; IM - Component CROP Subscription; IM - Component Shared Space Status; IM - Component Shared Space Allocation; Shared Space ALLOREQ; Data Access Listing; IM - Archive Status; IM - Archive Data/Information; IM - Component Repository Back-up Status; IM - Archive Retrieval Request	**Control:** Info Management Plan (IMP) - Air and Space Component; Joint Force Shared Space Allocation - Air & Space Component

IM 1.2.1 - Provide Data Access Services *DoD Net-Centric Data Strategy, 9 May 2003, para 3.1.1, pg. 13*

Data access services are any mechanisms that help expose data that is not otherwise available to users and applications. For example, a data access service may be a registered, accessible software interface that allows users and applications to extract information from an inventory database. C2 Warriors produce a listing of services and make it available to users. The listing documents all Component data assets available for subscription.

Input: Metadata Catalog - Air and Space Component; Metadata Catalog - Joint Force; Metadata Catalog - Air and Space Component; Metadata Catalog - Regional Component; Metadata Catalog - Land Component; Metadata Catalog - Maritime Component; Metadata Catalog - Special Operations Component; Metadata Catalog - TRANSCOM; Metadata Catalog - STRATCOM; Metadata Catalog - Global Weather	**Output:** Data Access Listing	**Control:**

IM 1.2.2 - Process Component Information Requirements

C2 Warriors receive and process information requirements. Users may request: Access to a net-centric data asset currently within a catalog; Modification to a cataloged data asset; Establishment of a new (uncataloged) data asset; A subscription to a net-centric data product, e.g., CROP - SIAP.
These requests/requirements are processed. This may entail rejection, acceptance, referral or return for clarification. Acceptances are processed within the Air and Space Component. Referrals are forwarded to applicable net-centric data/info product owners who may satisfy the request. Established or updated profiles may dictate user access to information products and data assets.

Input: IM - Profile Standards/Format; IM - User Profile Change Request	**Output:** IM - CROP Request; IM - Net-centric Data Want Ad; IM - Processed RFI; IM - Data Asset Subscription; IM - Component CROP Subscription	**Control:** Data Access Listing; CCIRs - Component Initial; Info Management Plan (IMP) - Air and Space Component

IM 1.2.2.1 - Analyze User Profiles *This activity is not referenced*

C2 Warriors process Standardized User Profiles and Change Requests to submit product requests in the form of a CROP subscription, data asset subscription, or for data unavailable, an RFI.

Input: IM - Profile Standards/Format; IM - User Profile Change Request	**Output:** IM - CROP Request; IM - Data Asset Request; RFI	**Control:**

IM 1.2.2.2 - Process CROP Subscriptions *This activity is not referenced*

The CROP subscription request is forwarded to a POC for the required CROP. The request is processed and filled through a subscription.

Input: IM - CROP Request	**Output:** IM - Component CROP Subscription	**Control:** Info Management Plan (IMP) - Air and Space Component

IM 1.2.2.3 - Process Data Asset Subscriptions *This activity is not referenced*

C2 Warriors fill the data asset request through a subscription.

Input: IM - Data Asset Request; Metadata Catalog - Air and Space Component; Metadata Catalog - Joint Force; Metadata Catalog - Regional Component; Metadata Catalog - Land Component; Metadata Catalog - Maritime Component; Metadata Catalog - Special Operations Component; Metadata Catalog - TRANSCOM; Metadata Catalog - STRATCOM; Metadata Catalog - Global Weather	**Output:** IM - Data Asset Subscription	**Control:** Info Management Plan (IMP) - Air and Space Component

IM 1.2.2.4 - Manage Routine RFIs *CENTAF IMP, pg. 20, para 4.4*

C2 Warriors oversee the RFI process. RFI are vital means of requesting information to support military operations. In a collaborative environment, formal RFI should be submitted by exception only. This means the requestor must exhaust all available means of finding an answer before submitting an RFI. Once a routine is RFI submitted, C2 Warriors determine its type, validity, and priority. They also analyze the availability of information.

Input: RFI	**Output:** IM - Processed RFI; IM - Net-centric Data Want Ad	**Control:** CCIRs - Component Initial; Data Access Listing; Info Management Plan (IMP) - Air and Space Component

IM 1.2.2.4.1 - Determine RFI Type (Operational/ Intelligence) *CENTAF IMP, pg. 20, para 4.4.1*

There are two types of RFI: intelligence and operational. Intelligence RFI is used to request information through intelligence infrastructure on enemy activities. These RFI are ultimately used to also perform collection management, and to ensure sensors and systems are collecting information to satisfy operational forces needs. On the other hand, operational RFI are used to request information concerning friendly or coalition force statues, readiness information, etc. This information is used to support C2 functions, operational planning and other campaign management functions.

Input: RFI	**Output:** IM - RFI Type	**Control:**

IM 1.2.2.4.2 - Determine RFI Validity *CENTAF IMP, pg. 47, para A4.1; JTF-IM, pg. III-9, para 5f.*

C2 Warriors review the RFI to ensure it is properly formatted, references a CCIR, cites sources consulted for the RFI, and stated as a specific, well-understood question.

Input: IM - RFI Type	**Output:** IM - RFI Validity	**Control:** CCIRs - Component Initial; Info Management Plan (IMP) - Air and Space Component

IM 1.2.2.4.3 - Determine RFI Priority *This activity is not referenced.*

C2 Warriors assign a priority (rack and stack) to RFIs.

Input: IM - RFI Validity	**Output:** IM - RFI Priority	**Control:** Info Management Plan (IMP) - Air and Space Component

IM 1.2.2.4.4 - Determine Information/ Data Asset Availability *This activity is not referenced*

C2 Warriors determine information/data sources to fulfill the RFI.

Input: IM - RFI Priority	**Output:** IM - RFI Information Availability	**Control:** Data Access Listing

IM 1.2.2.4.5 - Compile RFI Analyses *This activity is not referenced.*

C2 Warriors assemble supporting analyses to fulfill the RFI. For RFI's that can not be satisfied, C2 Warriors prepare a Data Want Ad.

Input: IM - RFI Type; IM - RFI Validity; IM - RFI Priority; IM - RFI Information Availability	**Output:** IM - Processed RFI; IM - Net-centric Data Want Ad	**Control:**

IM 1.2.3 - Manage Shared Space/Repositories *Derived from DoD Net-Centric Data Strategy, 9 May 2003, para 3.1.1, pg. 13*

Shared spaces -- virtual and actual -- are established to provide a "store and serve" mechanism for data assets or to accommodate changes to a cataloged data asset. The Joint Force IMO allocates shared space to Components. The Components manage their allocated space and the repositories that make up the shared space.

Input: IM - Component CROP Subscription; IM - Data Asset Subscription; IM - Processed RFI; IM - Archive Retrieval Request	**Output:** IM - Component Shared Space Status; IM - Component Shared Space Allocation; Shared Space ALLOREQ; IM - Component Repository Back-up Status; IM - Archive Status; IM - Archive Data/Information	**Control:** Joint Force Shared Space Allocation - Air & Space Component; Info Management Plan (IMP) - Air and Space Component

IM 1.2.3.1 - Monitor Component Repositories and Shared Space Availability *This activity is not referenced.*

C2 Warriors monitor repositories for capacity and data flow.

Input: IM - Processed RFI; IM - Data Asset Subscription; IM - Component CROP Subscription	**Output:** IM - Component Shared Space Status	**Control:** Joint Force Shared Space Allocation - Air & Space Component

IM 1.2.3.2 - Allocate Shared Space Within Component *This activity is not referenced.*

C2 Warriors allocate Component shared space to relevant data producers.

Input: IM - Component Shared Space Status	**Output:** IM - Component Shared Space Allocation	**Control:** Joint Force Shared Space Allocation - Air & Space Component; Info Management Plan (IMP) - Air and Space Component

IM 1.2.3.3 - Request Joint Force Shared Space Allocation Adjustment *This activity is not referenced.*

C2 Warriors request an adjustment to shared space allocation.

Input: IM - Component Shared Space Status	**Output:** Shared Space ALLOREQ	**Control:**

IM 1.2.3.4 - Manage Data/Information Archives

Input: IM - Component Shared Space Status; IM - Archive Retrieval Request	**Output:** IM - Component Repository Back-up Status; IM - Archive Status; IM - Archive Data/Information	**Control:** Joint Force Shared Space Allocation - Air & Space Component; Info Management Plan (IMP) - Air and Space Component

IM 1.2.3.4.1 - Manage Repository Back-up Capability *This activity is not referenced*

IM personnel provide a back-up capability for Component repositories and monitor status of that capability.

Input:	**Output:** IM - Component Repository Back-up Status	**Control:** Info Management Plan (IMP) - Air and Space Component

IM 1.2.3.4.2 - Manage Component Data /Information Archive *This activity is not referenced.*

Component data/information is archived as stipulated in the IMP. IM personnel monitor archives and provide status.

Input: IM - Component Repository Back-up Status; IM - Component Shared Space Status	**Output:** IM - Archive Status	**Control:** Joint Force Shared Space Allocation - Air & Space Component; Info Management Plan (IMP) - Air and Space Component

IM 1.2.3.4.3 - Manage Archive Retrieval Requests

C2 Warriors process retrieval requests for archive information and data.

Input: IM - Archive Status; IM - Archive Retrieval Request	**Output:** IM - Archive Data/Information	**Control:**

IM 1.3 - Manage Net-centric Data - Air Component *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 10*

The overarching activity whereby C2 Warriors post Air Component data assets and associate metadata, apply descriptors, establish ontologies, maintain assigned catalogs and register metadata.

Input: IM - Component Net-centric Metrics; IM - Component Data Standards; Data Asset	**Output:** IM - Data Asset with Metadata Associated; IM - Posted Data Asset; Metadata Registration Request; Metadata Catalog - Air and Space Component	**Control:** Net-centric Info Governance - Air and Space Component; DDMS; Info Management Plan (IMP) - Air and Space Component

IM 1.3.1 - Define Component Ontologies *DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.1*

The Component IMO establishes ontologies that best reflect the community understanding of their shared data. Ontologies include data categorization schemes, thesauruses, vocabularies, key word lists, and taxonomies. Ontologies promote semantic and syntactic understanding of data. For example, taxonomies enhance discovery by providing a hierarchical means of searching for data while providing users and applications with additional insights about data assets by indicating their placement among other data assets. Vocabularies define terms used in describing data assets, and the thesauruses identify related terms to assist translation services. The ontologies are compiled and added to the Component's Metadata Catalog.

Input: IM - Component Net-centric Metrics	**Output:** IM - Component Ontologies	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.1.1 - Define Component Data Schemes *DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.1*

The Component IMO establishes ontologies that best reflect the community understanding of their shared data. Ontologies include data categorization schemes. Ontologies promote semantic and syntactic understanding of data. For example, taxonomies enhance discovery by providing a hierarchical means of searching for data while providing users and applications with additional insights about data assets by indicating their placement among other data assets.

Input: IM - Component Net-centric Metrics	**Output:** IM - Component Data Scheme(s)	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.1.2 - Maintain Component Thesauruses *DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.1*

The Component IMO establishes ontologies that best reflect the community understanding of their shared data. Ontologies include thesauruses. Ontologies promote semantic and syntactic understanding of data. Thesauruses identify related terms to assist translation services.

Input:	**Output:** IM - Component Thesauruses	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.1.3 - Maintain Component Key Word Lists *DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.1*

The Component IMO establishes ontologies that best reflect the community understanding of their shared data. Ontologies include key word lists. Ontologies promote semantic and syntactic understanding of data.

Input:	**Output:** IM - Component Key Word List(s)	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.1.4 - Define Component Taxonomies *DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.1*

The Component IMO establishes ontologies that best reflect the community understanding of their shared data. Ontologies include taxonomies. Ontologies promote semantic and syntactic understanding of data. Taxonomies enhance discovery by providing a hierarchical means of searching for data while providing users and applications with additional insights about data assets by indicating their placement among other data assets.

Input:	**Output:** IM - Component Taxonomies	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.1.5 - Maintain Component Vocabularies *DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.1*

The Component IMO establishes ontologies that best reflect the community understanding of their shared data. Ontologies include vocabularies, which define terms used in describing data assets.

Input:	Output: IM - Component Vocabularies	Control: Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.1.6 - Compile Component Ontologies *DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.1*

The Component IMO establishes ontologies that best reflect the community understanding of their shared data. Ontologies include data categorization schemes, thesauruses, vocabularies, key word lists, and taxonomies. The ontologies are compiled and added to the Component's Metadata Catalog.

Input: IM - Component Data Scheme(s); IM - Component Thesauruses; IM - Component Key Word List(s); IM - Component Taxonomies; IM - Component Vocabularies	Output: IM - Component Ontologies	Control:

IM 1.3.2 - Identify Data Asset Requirements *Derived from DoD Net-Centric Data Strategy, 9 May 2003, para 3.1, pg. 11*

The Component's IM function defines basic requirements to identify and process data assets. All data assets will have documented authoritative sources, well-defined security requirements (disclosure/access), shared space requirement, and associated descriptor needs.

Input: IM - Component Ontologies; Data Asset	Output: IM - Data Asset Requirements	Control: Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.2.1 - Identify Authoritative Sources *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 16, para 3.5.2*

C2 Warriors identify authoritative sources for key data assets in their domain. The Component will publicize their identified authoritative sources to the Enterprise, thus allowing users and applications to evaluate and understand the community- implied authority of data sources. The Component may have to resolve potentially conflicting sources and, where appropriate, coordinate with higher-level governance bodies to identify authoritative source(s).

Input: Data Asset; IM - Component Ontologies	**Output:** IM - Data Asset Authoritative Source(s)	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.2.2 - Identify Security Requirements

Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 13, para 3.2.2.

The Component IM will establish security requirements for each data asset. This will include disclosure and access guidelines, as well as data aggregation considerations. For example, an unclassified data asset may become classified when aggregated with other unclassified assets. C2 warriors must also consider multinational access requirements.

Input: Data Asset; IM - Component Ontologies	**Output:** IM - Data Asset Security Requirement(s)	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.2.3 - Identify Shared Space Requirements

This activity is not referenced

Shared spaces will act as repositories where users and applications can submit, or post, data assets to the enterprise. The shared spaces will provide storage and serving mechanisms. The Component IM function establishes requirements to accommodate shared space allocation to the Component and within the Component.

Input: Data Asset; IM - Component Ontologies	**Output:** IM - Data Asset Shared Space Requirement	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.2.4 - Identify Descriptor Requirements

Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 13, para 3.2.2, pg. 15, para 3.4.2-4.

The Component IM function specifies descriptor requirements for Component data assets. This includes information regarding resource, summary content, security, and format descriptors.

Input: Data Asset; IM - Component Ontologies	**Output:** IM - Data Asset Descriptor Requirement(s)	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.3.2.5 - Compile Data Asset Requirements

This activity is not referenced

The Component IM function produces a compilation of data asset requirements.

Input: IM - Data Asset Authoritative Source(s); IM - Data Asset Security Requirement(s); IM - Data Asset Shared Space Requirement; IM - Data Asset Descriptor Requirement(s)	**Output:** IM - Data Asset Requirements	**Control:**

IM 1.3.3 - Associate Metadata with Data Asset *DoD Net-Centric Data Strategy, 9 May 2003, pg. 11, para 3.1.2*

To facilitate discovery of data assets, users and applications will provide discovery metadata, in accordance with the DoD Discovery Metadata Standard (DDMS), for all data to be posted to shared spaces. The DDMS will provide a common set of structured attributes that support discovery of data assets using search tools. C2 Warriors determine the desired level of discovery for a data asset, e.g., discovery of a database or a record within a database, discovery of a document or a paragraph within a document. The initial focus of the DDMS is to aid in the discovery of data assets as a whole; hence, the discovery metadata in the DDMS will not always be required for individual records or elements. For example, the discovery metadata will always indicate the existence of a database containing certain kinds of information but may or may not identify the contents of specific database elements. The DDMS does not preclude the use of other metadata processes or standards.

Input: IM - Data Asset Requirements; IM - Component Data Standards; Data Asset	**Output:** IM - Data Asset with Metadata Associated	**Control:** DDMS

IM 1.3.3.1 - Apply Security Descriptor(s) *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 16, para 3.5.1*

The Security Descriptors elements of the DDMS allow security and privacy markings consistent with established standards where applicable. For information assurance (IA) and security, GES provides auditing tools that can track access, by individual user, of each data asset. GES may also provide access control to data assets based on security markings in the metadata.

Input: IM - Component Data Standards; IM - Data Asset Requirements; Data Asset	**Output:** IM - Data Asset with Security Descriptor(s)	**Control:** DDMS

IM 1.3.3.2 - Apply Resource Descriptor(s) *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 16, para 3.5.1*

The Resource Descriptors elements of the DDMS allow identification of the author, publisher, and sources contributing to the data, allowing users and applications to assess the derivation of the data (i.e., data pedigree). This metadata allows users and applications to select data from known sources. Reliable and quality sources will become more widely used, enhancing overall data quality throughout the Enterprise as more data sources become visible.

Input: IM - Component Data Standards; IM - Data Asset Requirements; Data Asset	**Output:** IM - Data Asset with Resource Descriptor(s)	**Control:** DDMS

IM 1.3.3.3 - Apply Summary Content Descriptor(s)

Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.2

The summary content descriptors element set of the DDMS is specifically aimed at providing (content-related) details about data assets. Content metadata provides topics, keywords, context, and other content-related information. Content metadata gives users and applications insight into the meaning and context of the data. Content metadata provides a basis for search engines to perform searches for data assets that address specific topics.

Input: IM - Component Data Standards; IM - Data Asset Requirements; Data Asset	**Output:** IM - Data Asset with Summary Content Descriptor(s)	**Control:** DDMS

IM 1.3.3.4 - Apply Format Descriptor(s)

Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.3

The format descriptors element set of the DDMS is used to describe details pertaining to the format of the associated data asset. The format descriptors are useful when trying to understand the physical manifestation of an asset. In addition, the format descriptors contain optional information that describes the extent of the asset, such as file size, bit rate, and dimensions. Format-related metadata allows users and applications to narrow down information searches and to select products that meet their particular operating constraints (e.g., a user who is able to view only Graphic Interchange Format [GIF] images would not want to pull a (JPEG image).

Input: IM - Component Data Standards; IM - Data Asset Requirements; Data Asset	**Output:** IM - Data Asset with Format Descriptor(s)	**Control:** DDMS

IM 1.3.3.5 - Apply Extensible Layer

Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 15, para 3.4.4

To improve understanding, an extension of the discovery metadata standard is reserved for domain-specific, or COI-specific, metadata. This is represented as the extensible layer of the DDMS. With this extension layer, COIs will be able to provide context relevant to their particular domain area and still be able to participate in Enterprise-wide search and discovery. COIs will be required to register their COI-specific content metadata requirements in the DoD Metadata Registry. These COI-specific metadata requirements may then be integrated into appropriate Enterprise and community services such as search and mediation.

Input: IM - Component Data Standards; IM - Data Asset Requirements; Data Asset	**Output:** IM - Data Asset with Extensible Layer	**Control:** DDMS

IM 1.3.3.6 - Compile Metadata Associations *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 11, para 3.1.2*

Metadata treatment of the data asset is compiled and forms the basis for the input to the metadata catalog and registry.

Input: IM - Data Asset with Security Descriptor(s); IM - Data Asset with Resource Descriptor(s); IM - Data Asset with Summary Content Descriptor(s); IM - Data Asset with Format Descriptor(s); IM - Data Asset with Extensible Layer	**Output:** IM - Data Asset with Metadata Associated	**Control:**

IM 1.3.4 - Post Asset to Shared Space *DoD Net-Centric Data Strategy, 9 May 2003, pg. 11, para 3.1.1*

Users and applications will migrate from maintaining private data (e.g., data kept within system specific storage) to making data available in community- and Enterprise-shared spaces (e.g., servers and services available on the Internet). These shared spaces will act as repositories where users and applications can submit, or post, data assets to the enterprise. The shared spaces will provide storage and serving mechanisms. Enterprise-shared spaces will be maintained, secured, and staged as necessary to support the Component's missions. Data that is posted to shared spaces will be advertised via the associated metadata and will be discoverable with enterprise search tools.

Input: IM - Data Asset with Metadata Associated	**Output:** IM - Posted Data Asset	**Control:** Info Management Plan (IMP) - Air and Space Component

IM 1.3.5 - Register Metadata *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 13, para 3.1.4*

The DoD, Region and Joint Force Registries contain metadata related to data structures, models, dictionaries, and schemas. These registries give developers and architects visibility into methods to compose and encode data and to share usage across the Enterprise. Registration of Air & Space Component metadata is critical to achieve the data goals of interoperability and understanding by promoting semantic and structural understanding.

Input: IM - Data Asset with Metadata Associated	**Output:** Metadata Registration Request	**Control:** DDMS

IM 1.3.6 - Manage Component Metadata Catalog *Derived from DoD Net-Centric Data Strategy, 9 May 2003, pg. 12, para 3.1.3*

Metadata catalogs will advertise the existence of shared data and will contain information about all data assets contained in the associated shared space (including databases, system output files, web pages, documents, and access services). Component metadata elements must be represented in the Component metadata catalog for any data asset posted to a shared space. The Air & Space Component establishes and maintains the Component's metadata catalog. This catalog is organized according to the Air & Space Component-defined ontologies.

The catalog is searchable by applications or through user-friendly, web-based interfaces. The web-based interfaces have a consistent look and feel and support posting of metadata to the catalog and data to the shared space. The catalog is searchable, either manually or automatically via agents, through application programming interfaces. It will adhere to Enterprise discovery interface standards to allow searches within a catalog or across catalogs.

Input: Metadata Registration Request; IM - Component Data Standards	**Output:** Metadata Catalog - Air and Space Component	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS; IM - Component Ontologies

IM 1.4 - Manage Net-centric Pictures *This activity is not referenced.*

C2 Warriors build and maintain standardized, Air & Space Component, net-centric subscription pictures; these are the Common Relevant Operational Pictures (CROPs) focused on key functional areas of the Component that are of interest to the joint force. C2 Warriors process product requests to build new subscription products. They also monitor the status of all Component-subscribed CROPs.

Input: IM - New CROP Request; IM - Data Asset with Metadata Associated; Metadata Registration Request; CROP STATREP - STRATCOM; CROP STATREP - TRANSCOM; CROP STATREP - Global Weather	**Output:** CROP STATREP - Air and Space Component; Event/Indication Notification; CROP - Air and Space Component; CROP - ISR; CROP - Force/Resource; CROP - Airspace; CROP - SIAP; CROP - Air Mobility Support; CROP - Theater Weather; CROP - Communications and Network Status; CROP - Computer Network Operations; CROP - Space Support; CROP - ONA	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; IM - Component Data Standards; DDMS

IM 1.4.1 - Provide Air & Space Component Net-centric Pictures *Derived from Doctrinal Implications of the Standing Joint Force Headquarters (SJFHQ) Coordinating Draft, 20 April 2003 (JWFC Doctrine Pamphlet 3) and DoD Net-Centric Data Strategy, 9 May 2003*

C2 Warriors manage the dissemination and quality assurance of standardized, Air Component, net-centric subscription products.

Input: IM - New CROP Request; IM - Data Asset with Metadata Associated; Metadata Registration Request	**Output:** CROP - Air and Space Component; CROP - ISR; CROP - Force/Resource; CROP - Airspace; CROP - SIAP; CROP - Air Mobility Support; CROP - Theater Weather; CROP - Communications and Network Status; CROP - Computer Network Operations; CROP - Space Support; CROP - ONA	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component; DDMS

IM 1.4.1.1 - Process Component CROP Development Request *This activity is not referenced.*

C2 Warriors process request for CROP development. This entails analyses of operational need, shared space requirements and connectivity issues. If appropriate, the Component IMO approves the request and provides guidance.

Input: IM - New CROP Request	**Output:** IM - New CROP Development Guidance	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component

IM 1.4.1.1.1 - Analyze Operational Requirement *This activity is not referenced*

C2 Warriors analyze the CROP request for operational applicability. If little justification exists, the request is returned for further clarification or withdrawal.

Input: IM - New CROP Request	**Output:** IM - New CROP Ops Analysis	**Control:** Info Management Plan (IMP) - Air and Space Component

IM 1.4.1.1.2 - Estimate Shared Space Requirement *This activity is not referenced*

C2 Warriors analyze the impact of the new CROP on the current allocation of shared space. This requires an understanding of the data assets comprising the CROP, the anticipated users, and the amount of shared space available.

Input: IM - New CROP Request	**Output:** IM - New CROP Shared Space Analysis	**Control:**

IM 1.4.1.1.3 - Estimate Connectivity Requirement *This activity is not referenced*

Although primarily a communications function, C2 Warriors need to understand who will require the new CROP and what types of communications systems and links are required to provide and receive it.

Input: IM - New CROP Request	**Output:** IM - New CROP Connectivity Analysis	**Control:**

IM 1.4.1.1.4 - Approve Picture Development *This activity is not referenced*

Based on justified operational need, an adequate amount of shared space and available communication systems and links, the Component IM will approve development of the new CROP. Disapprovals are forwarded to the requestor for reclama as required. The IMO provides CROP development guidance.

Input: IM - New CROP Ops Analysis; IM - New CROP Shared Space Analysis; IM - New CROP Connectivity Analysis	**Output:** IM - New CROP Development Guidance	**Control:** Net-centric Info Governance - Air and Space Component

IM 1.4.1.2 - Develop Component CROP(s)

Input: IIM - Data Asset with Metadata Associated; Metadata Registration Request	**Output:** IM - CROP Approval	**Control:** IM - New CROP Development Guidance; IM - Component Data Standards; DDMS; Info Management Plan (IMP) - Air and Space Component

IM 1.4.1.2.1 - Subscribe to Required Data *This activity is not referenced.*

C2 Warriors analyze data asset requirements and establish subscriptions to appropriate data assets.

Input: IM - Data Asset with Metadata Associated; Metadata Registration Request	**Output:** IM - CROP Data Assets	**Control:** IM - New CROP Development Guidance

IM 1.4.1.2.2 - Format Picture (Schema)

C2 Warriors work with CROP requestor to build the picture, formatted to meet operational needs.

Input: IM - CROP Data Assets	**Output:** IM - CROP Schema	**Control:**

IM 1.4.1.2.3 - Access Shared Space *This activity is not referenced.*

Once formatted, the picture is posted to Component Shared Space, yet is not accessible at this time to the community.

Input: IM - CROP Data Assets; IM - CROP Schema	**Output:** IM - CROP Prototype	**Control:**

IM 1.4.1.2.4 - Validate CROP *This activity is not referenced.*

C2 Warriors work with the requestor and experts from the ops community to ensure the proposed CROP meets operational needs. Security standards, to include access issues are addressed at this time. Once agreed, these standards are applied.

Input: IM - CROP Prototype; IM - Component Data Standards	**Output:** IM - CROP Validated	**Control:** DDMS; Info Management Plan (IMP) - Air and Space Component

IM 1.4.1.2.5 - Approve CROP

This activity is not referenced.

The new CROP is turned over to the Component IMO who approves its release or returns it for further action. Once released, the CROP becomes accessible to approved subscribers.

Input: IM - CROP Validated	**Output:** IM - CROP Approval	**Control:**

IM 1.4.1.3 - Produce Component CROPs

JFWC Doctrine Pamphlet 3 (Cord Draft), pg. 15.

C2 Warriors release CROPs to authorized subscribers. The CROPs listed with this activity are a notional set based on common theater requirements. It is presumed the JFACC will want to focus on these particular areas.

Input: IM - CROP Approval	**Output:** CROP - Air and Space Component; CROP - ISR; CROP - Force/Resource; CROP - Airspace; CROP - SIAP; CROP - Air Mobility Support; CROP - Theater Weather; CROP - Communications and Network Status; CROP - Computer Network Operations; CROP - Space Support; CROP - ONA	**Control:** Info Management Plan (IMP) - Air and Space Component

IM 1.4.2 - Monitor Net-centric Pictures

Derived from Doctrinal Implications of the Standing Joint Force Headquarters (SJFHQ) Coordinating Draft, 20 April 2003 (JWFC Doctrine Pamphlet 3) and DoD Net-Centric Data Strategy, 9 May 2003

C2 Warriors monitor Component CROPs as well as those subscribed by Component personnel. C2 Warriors produce a status report and notify applicable personnel when problems occur.

Input: CROP - Air and Space Component; CROP - ISR; CROP - Force/Resource; CROP - Airspace; CROP - SIAP; CROP - Air Mobility Support; CROP - Theater Weather; CROP - Communications and Network Status; CROP - Computer Network Operations; CROP - Space Support; CROP - ONA; CROP STATREP - STRATCOM; CROP STATREP - TRANSCOM; CROP STATREP - Global Weather	**Output:** CROP STATREP - Air and Space Component; Event/Indication Notification	**Control:** Net-centric Info Governance - Air and Space Component; Info Management Plan (IMP) - Air and Space Component

IM 1.5 - Manage Component Information Assurance/Network Defense Operations

Providing the capability for the Air & Space Component to maintain the status of networks, preserve the integrity and availability of the networks, implement procedures to protect Component Networks and communications means, and provide products to inform the Computer Network Operations community on current Computer Network Defense activities for the Component.

Input: INFOCON; Info Assurance Vulnerability Alert (IAVA); Info Assurance Vulnerability Bulletin (IAVB); Info Assurance Vulnerability Technical Advisory; CROP - Communications and Network Status; CROP - Computer Network Operations; IO Warnings	**Output:** IM - INFOCON Notification; IM - Continuity of Operations Plan (COOP); IM - Critical Information Nodes; IM - IAV Compliance Report; IM - Communications/Networks STATREP; Event/Indication Notification; Indications and Warning; IM - Network Attack Impact Assessment	**Control:** Info Management Plan (IMP) - Air and Space Component; Net-centric Info Governance - Air and Space Component; IA Direction and Guidance; Communications Plan

IM 1.5.1 - Manage Component INFOCON *JTF-IM, pg. V-8, para 9*

With familiarity of INFOCON policy directives, CAOC C2 Warriors must develop management techniques that allow swift transition to varying levels of INFOCON, without jeopardizing their warfighting capability.

Input: INFOCON; IM - Network Attack Impact Assessment	**Output:** IM - INFOCON Notification; IM - Continuity of Operations Plan (COOP); IM - Critical Information Nodes	**Control:** IA Direction and Guidance; Net-centric Info Governance - Air and Space Component

IM 1.5.1.1 - Identify Mission Critical, Support, & Admin Info Systems/Networks *JTF IM, pg. V-8, para 9a*

Effective INFOCON management commences with C2 Warriors identifying critical information nodes within their infrastructure. The types of IA protective measures, techniques and procedures needed for a system shall be determined on both information security and mission criticality. CJCSI 6510.01C sets policy for the assignment of all DOD information systems to a mission category (mission critical, mission support, or administrative). Generally, higher levels of security are required for higher levels of system critically and information sensitivity.

Input:	**Output:** IM - Critical Information Nodes	**Control:** IA Direction and Guidance; Net-centric Info Governance - Air and Space Component

IM 1.5.1.2 - Designate User Groups *JTF-IM, pg. V-8, para 9b*

C2 Warriors develop a prioritized information systems positions/users list. This list will identify users who require system access to perform mission essential duties on unclassified and classified networks. The list shall not be solely based on rank or pay grade criteria. Those personnel who are key information processors should be placed into an appropriate user group to support mission accomplishment. The IMO shall design user groups to limit access as much as feasible, and continue all operations with due regard to OPSEC and INFOSEC.

Input: IM - Critical Information Nodes	**Output:** IM - User Groups	**Control:**

IM 1.5.1.3 - Develop the Component COOP Input *JTF-IM, pg., V-9, para 9c*

The IMO develops a Continuity of Operations Plan (COOP) based upon actual mission requirements and information system capabilities. As an integral part of the IMP, the COOP may include the following:
(a) List of critical information systems related to their respective mission.
(b) Authorized users list, distinguished by tier groups.
(c) Local INFOCON procedures.
(d) INFOCON quick reference matrix of critical systems.
(e) Operational impact assessment of mission.
(f) Reporting instructions.

Input: IM - User Groups; IM - Network Attack Impact Assessment	**Output:** IM - Continuity of Operations Plan (COOP)	**Control:** IA Direction and Guidance; Net-centric Info Governance - Air and Space Component

IM 1.5.1.4 - Manage INFOCON Changes *CENTAF IMP, pg. 85, para A12.7A*

The CAOC IM Cell is responsible for notifying affected Air and Space Component units about INFOCON changes. Notification should include the following information:
Date/time of report.
Current INFOCON.
Reason for declaration of this INFOCON.
Current/planned operation(s) or capabilities, units/organizations, networks, systems, applications, or data assessed to be impacted or at risk.
Recommended or SECDEF-directed actions.
References to relevant technical advisories, intelligence assessments, etc.
POC contact information.

Input: IM - Continuity of Operations Plan (COOP); INFOCON	**Output:** IM - INFOCON Notification	**Control:** IA Direction and Guidance; Net-centric Info Governance - Air and Space Component

IM 1.5.2 - Support Info Assurance Vulnerability Alert Program *CENTAF IMP, pg., 87*

Input: Info Assurance Vulnerability Alert (IAVA); Info Assurance Vulnerability Bulletin (IAVB); Info Assurance Vulnerability Technical Advisory	**Output:** IM - IAV Compliance Report	**Control:** IA Direction and Guidance; Info Management Plan (IMP) - Air and Space Component

IM 1.5.2.1 - Acknowledge Receipt of IAV Notification *CENTAF IMP, pg. 88, para A12.7B*

C2 Warriors acknowledge receipt of the Information Assurance Vulnerability Alert (IAVA), Information Assurance Vulnerability Bulletin (IAVB) or Information Assurance Vulnerability Technical Advisory.

Input: Info Assurance Vulnerability Alert (IAVA); Info Assurance Vulnerability Bulletin (IAVB); Info Assurance Vulnerability Technical Advisory; IM - Critical Information Nodes	**Output:** IM - IAV Notification Acknowledgement	**Control:**

IM 1.5.2.2 - Manage Corrective Action to IAV-Affected Systems *CENTAF IMP, pg. 88, para A12.7B*

C2 Warriors direct corrective action to comply with IAV notification.

Input: IM - IAV Notification Acknowledgement	**Output:** IM - IAV Corrective Action	**Control:** IA Direction and Guidance; Info Management Plan (IMP) - Air and Space Component

IM 1.5.2.3 - Verify IAV Corrective Action *CENTAF IMP, pg. 88, para A12.7B*

C2 Warriors ensures corrective action results in IAV compliance. Waivers are developed as required.

Input: IM - IAV Corrective Action	**Output:** IM - IAV Corrective Action Verification	**Control:** IA Direction and Guidance

IM 1.5.2.4 - Report IAV Compliance *CENTAF IMP, pg. 88, para A12.7B*

Compliance information shall include, at a minimum, the number of assets affected, the number of assets in compliance, and the number of assets with waivers.

Input: IM - IAV Corrective Action Verification	**Output:** IM - IAV Compliance Report	**Control:**

IM 1.5.3 - Monitor Component Comm Links and Networks *Operational Architecture activities received from AFIWC, Derived from AFSPC Almanac and Air University article "Force Support - AFSCN*

Monitoring the current operational status and availability of communications links and networks for the Air Component.

Input: IM - IAV Compliance Report; CROP - Communications and Network Status; CROP - Computer Network Operations; IO Warnings	**Output:** IM - Communications/Networks STATREP; Event/Indication Notification; Indications and Warning	**Control:** Communications Plan; Info Management Plan (IMP) - Air and Space Component

IM 1.5.4 - Manage Network Attack Impact Assessment *JTF-IM, pg. V-9*

Input: IM - Communications/Networks STATREP; Event/Indication Notification; Indications and Warning; IM - Critical Information Nodes	**Output:** IM - Network Attack Impact Assessment	**Control:** IA Direction and Guidance; Info Management Plan (IMP) - Air and Space Component

IM 1.5.4.1 - Identify Critical Information Systems Targeted *JTF-IM, pg. V-10, para 10c*

C2 Warriors begin assessment process by examining the critical information systems that are or may be affected by an impending attack.

Input: IM - Critical Information Nodes; IM - Communications/Networks STATREP; Event/Indication Notification; Indications and Warning	**Output:** IM - Impact Assessment of Affected Systems	**Control:**

IM 1.5.4.2 - List Missions/Operations Affected *JTF-IM, pg. V-10, para 10c*

C2 Warriors list missions or operations the component is currently supporting, or projected to support in the near future, that may be affected by this activity.

Input: IM - Impact Assessment of Affected Systems	**Output:** IM - Impact Assessment of Affected Missions/Operations	**Control:** Info Management Plan (IMP) - Air and Space Component

IM 1.5.4.3 - Determine Technical Impact *JTF-IM, pg. V-10, para 10c*

For each information system targeted, determine the technical impact, i.e., to what degree are confidentiality, integrity, availability, authentication, and non-repudiation affected? What critical applications and databases are impacted?
Determine how the technical impact of the malicious activity affects the unit's ability to execute its mission. Determine how the impact on the unit's ability to function affects support to current/projected operations. If no specific operations are ongoing or projected, make a determination of how general capability/readiness is affected.

Input: IM - Impact Assessment of Affected Missions/Operations	**Output:** IM - Technical Impact Assessment	**Control:**

IM 1.5.4.4 - Estimate Time Resources to Restore Functionality *JTF-IM, pg. V-10, para 10c*

For the technical impacts identified, C2 Warriors estimate the time and resources required to restore functionality. They identify any interim workarounds.

Input: IM - Technical Impact Assessment	**Output:** IM - Restoration Assessment	**Control:**

IM 1.5.4.5 - Compile Impact Assessment *This activity is not referenced.*

C2 Warriors build and submit the network attack Impact Assessment.

Input: IM - Impact Assessment of Affected Systems; IM - Impact Assessment of Affected Missions/Operations; IM - Technical Impact Assessment; IM - Restoration Assessment	**Output:** IM - Network Attack Impact Assessment	**Control:** IA Direction and Guidance

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